Date: Friday, 10/20/2006 11:09:55 AM
User: Kim Johnston

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services
Job Number : 29086
Estimate Number : 11057
P.O. Number : N/A
This Issue : 10/20/2006 **S.O. No.** : N/A
Prsht Rev. : NC
First Issue : N/A **Type** : PURCHASED PARTS
Previous Run : 28792
Written By :
Checked & Approved By : 06 10 20
Comment : Est. C 02.11.26 Added P/O KJ

Drawing Name : 02.250 SUPPORT
Part Number : D28911
Drawing Number : D2891 REV A1
Project Number : N/A
Drawing Revision : A1
Material : N/A
Due Date : 11/10/2006 **Qty:** 20 **Um:** Each

Additional Product

Job Number:

Seq. #:	Machine Or Operation:	Description :
1.0	PG	PURCHASING

Comment: PURCHASING
Issue P/O: 2302 CL 06 11 01 20 (20)
Description: D6104-003
Material: 17-4 PH SS (AMS 5643 OR AISI 630) as per Dwg D6104
Material release note required.
Blank size makes (2) D2891-1

2.0	D6104003	17-4 SS Roundbar 3.25"OD

Comment: Qty.: 1.0000 Each(s)/Unit Total : 20.0000 Each(s)
Support 2.25 dia BZ 10 06 20

3.0	PACKAGING 1	PACKAGING RESOURCE #1

Comment: PACKAGING RESOURCE #1
Recieive & Inspect for Transit Damage
Ensure Material Release Note is attached 06/00/31 (20)

4.0	MORI SEIKI	MORI SEIKI CNC LATHE LARGE

Comment: MORI SEIKI LATHE
Turn blank for Haas as per Folio FA046 BG/MS 06.11.09 20

5.0	QC1	INSPECT ALL DIM TO DIM SHEET

Comment: INSPECT ALL DIM TO DIM SHEET BG/MS 06.11.09 20

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes (No) **DQA:** ZD **Date:** 06/12/15.

QA: N/C Closed: _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			
06/01/29	6	three Dimensions are under tolerance (AC, AG, AH) tool was Running out	06.12.01 per QS 042	changed the tool holder PARTS ARE ACCEPTABLE PER DS EMAIL	J.G 06/11/29	06-12-12	06.12.01 per QS 042	06.12.12

NOTE: Date & initial all entries

Date: Friday, 10/20/2006 11:09:56 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services **Drawing Name:** 02.250 SUPPORT

Job Number: 29086 **Part Number:** D28911

Job Number:

Seq. #:	Machine Or Operation:	Description :	
6.0	HAAS1	HAAS CNC VERTICAL MACHINING #1	
	Comment: HAAS Machine as per Folio FA046 Tumble & Deburr	Ep 06/12/01 / J.G	06/11/20 40
7.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE	
	Comment: INSPECT PARTS AS THEY COME OFF MACHINE	Ep 06/12/01 / J.G	06/11/20 40
8.0	QC8	SECOND CHECK	
	Comment: SECOND CHECK	J.F.	06/12/03 40
9.0	POWDER COATING	POWDER COATING	
	Comment: POWDER COATING Powder Coat White Gloss (Ref: 4.3.5.2) as per QSI 005 4.3	M-R / 40	06/12/12 40
10.0	QC3	INSPECT POWDER COAT/CHEMICAL CONVERSION	
	Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION	DB	06/12/13 (40)
11.0	PACKAGING 1	PACKAGING RESOURCE #1	
	Comment: PACKAGING RESOURCE #1 Identify and Stock Location: ST165	DB	06/12/13 (40)
12.0	QC21	FINAL INSPECTION/W/O RELEASE	(40)
	Comment: FINAL INSPECTION/W/O RELEASE		06/12/15

Job Completion

W 06.12.14

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

QA: N/C Closed: _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order:	29086
Description: Ø2.250 Support	Part Number:	D2891-1
Inspection Dwg: D2891 Rev. A1		Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing D2891 Rev.A1/DSK076 Rev.A and record below:

				Recorded Actual Dimensions					
Dim	**Min**	**Max**	**Go/No Go Gauge**	**1**	**2**	**3**	**4**	**By**	**Date**
Lathe Section									
A	2.274	2.279		2.279	2.279	2.279	2.279	MB	06/11/8
B	3.702	3.722		3.712	3.712	3.712	3.712		
C	2.564	2.584		2.576	2.576	2.576	2.576		
D	0.718	0.738		.725	.725	.725	.725		
E	0.090	0.110		.102	.102	.102	.102		
F	2.464	2.484		2.476	2.476	2.476	2.476		
G	2.029	2.049		2.036	2.036	2.036	2.036		
H	2.964	2.984		2.975	2.975	2.975	2.975		
I	0.913	0.933		.923	.923	.923	.923		
J	0.022	0.042		.032	.032	.032	.032		
K	0.090	0.110		.097	.099	.099	.099		
L									
HAAS Section									
AA	0.188	0.193	~~DT3706~~	0.188	0.188	0.188	0.188		
AB	0.240	0.260		0.250	0.249	0.251	0.247		
AC	0.115	0.150		0.123	0.119	0.120	0.120		
AD	0.040	0.060		0.058	0.053	0.041	0.042		
AE	0.010	0.020		0.015	0.015	0.015	0.015		
AF	0.240	0.260		0.250	0.250	0.250	0.250		
AG	0.290	0.310		0.301	0.306	0.310	0.316		
AH	0.115	0.150		0.135	0.132	0.134	0.134		
AI	0.454	0.474		0.467	0.459	0.474	0.472		
AJ	2.779	2.789		2.780	2.780	2.781	2.779		
AK	0.240	0.260		0.250	0.250	0.250	0.250		
AL	1.002	1.042		1.042	1.042	1.042	1.041		
AM	0.053	0.073		0.063	0.063	0.063	0.063		
AN	0.257	0.262	~~DT3683~~	0.258	0.257	0.257	0.257		
AO	1.663	1.683		1.673	1.677	1.679	1.682		
AP	0.053	0.073		0.063	0.063	0.063	0.063		
AQ	0.022	0.042		0.032	0.032	0032	0032		
AR									
AS									
Accept/Reject					C				

Measured by:	MB / J.B / 06/11/20	Audited by	J.F.
Date:	06/11/8	Date:	06/12/03

Rev	Date	Change	Revised by	Approved
A	02.12.12	New Issue	KJ/RF	

DART AEROSPACE LTD	Work Order:	29086
Description: Ø2.250 Support	Part Number:	D2891-1
Inspection Dwg: D2891 Rev. A1		Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing D2891 Rev.A1/DSK076 Rev.A and record below:

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	#5	#6	#7	#8	By	Date
Lathe Section									
A	2.274	2.279		2.279	2.278	2.278	2.279	MS	06/11/8
B	3.702	3.722		3.712	3.712	3.712	3.712		
C	2.564	2.584		2.577	2.577	2.577	2.577		
D	0.718	0.738		.725	.725	.725	.725		
E	0.090	0.110		.101	.101	.101	.101		
F	2.464	2.484		2.477	2.477	2.477	2.477		
G	2.029	2.049		2.036	2.036	2.036	2.036		
H	2.964	2.984		2.976	2.976	2.976	2.976		
I	0.913	0.933		.923	.923	.923	.923		
J	0.022	0.042		.032	.032	.032	.032		
K	0.090	0.110		.097	.097	.097	.098		
L									
HAAS Section									
AA	0.188	0.193	~~DT8706~~	0.188	0.188	0.188	0.188		
AB	0.240	0.260		0.247	0.247	0.251	0.251		
AC	0.115	0.150		0.125	0.115	0.	0.125		
AD	0.040	0.060		0.058	0.054	0.055	0.054		
AE	0.010	0.020		0.015	0.015	0.015	0.015		
AF	0.240	0.260		0.250	0.250	0.250	0.250		
AG	0.290	0.310		0.294	0.301	0.290	0.300		
AH	0.115	0.150		0.135	0.127	0.	0.140		
AI	0.454	0.474		0.462	0.464	0.465	0.464		
AJ	2.779	2.789		2.7980	2.784	2.784	2.784		
AK	0.240	0.260		0.250	0.250	0.250	0.250		
AL	1.002	1.042		1.039	1.042	1.040	1.041		
AM	0.053	0.073		0.063	0.063	0063	0.063		
AN	0.257	0.262	~~DT8683~~	0.257	0.257	0.257	0.257		
AO	1.663	1.683		1.681	1.680	1.681	1.681		
AP	0.053	0.073		0.063	0.063	0063	0.063		
AQ	0.022	0.042		0.032	0.032	0.032	0032		
AR									
AS									
Accept/Reject									

Measured by:	BG / MS	J.G
Date:	06/11/8	06111/29

Audited by	J.F.
Date:	06/12/03

Rev	Date	Change	Revised by	Approved
A	02.12.12	New Issue	KJ/RF	

DART AEROSPACE LTD	Work Order:	29086
Description: Ø2.250 Support	Part Number:	D2891-1
Inspection Dwg: D2891 Rev. A1		Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing D2891 Rev.A1/DSK076 Rev.A and record below:

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	#9	#10	#11	#12	By	Date
Lathe Section									
A	2.274	2.279		2.279	2.279	2.279	2.279	MB	06/11/8
B	3.702	3.722		3.712	3.712	3.712	3.712		
C	2.564	2.584		2.575	2.575	2.575	2.575		
D	0.718	0.738		.725	.725	.725	.725		
E	0.090	0.110		.100	.100	.100	.100		
F	2.464	2.484		2.475	2.475	2.475	2.475		
G	2.029	2.049		2.035	2.035	2.035	2.035		
H	2.964	2.984		2.975	2.975	2.975	2.975		
I	0.913	0.933		.923	.923	.923	.923		
J	0.022	0.042		.032	.032	.032	.032		
K	0.090	0.110		.097	.097	.097	.097		
L									
HAAS Section									
AA	0.188	0.193	~~DT8706~~	0.188	0.188	0.188	01/88		
AB	0.240	0.260		0.248	0.249	0.248	0.249		
AC	0.115	0.150		0121	0.124	0.124	0.125		
AD	0.040	0.060		0.053	0.052	0.051	0.052		
AE	0.010	0.020		0015	0.015	0.015	0015		
R AF	0.240	0.260		0.250	0.250	0.250	0.250		
AG	0.290	0.310		0295	0.299	0.299	0.300		
AH	0.115	0.150		0.132	0.140	0.141	0.141		
AI	0.454	0.474		0.460	0.465	0.464	0.465		
AJ	2.779	2.789		2.780	2.785	2.784	2.784		
R AK	0.240	0.260		0.250	0.250	0.250	0250		
AL	1.002	1.042		1.041	1.042	1.042	1.042		
R AM	0.053	0.073		0.063	0.063	0063	0.063		
AN	0.257	0.262	~~DT8683~~	0.257	0.257	0257	0.257		
AO	1.663	1.683		1.680	1.681	1.681	1.681		
R AP	0.053	0.073		0.063	0.063	0.063	0063		
R AQ	0.022	0.042		0.032	0.032	0.032	0032		
AR									
AS									
Accept/Reject									

Measured by:	BG / MB / J.G
Date:	06/11/8 / 06/11/29

Audited by	J.F.
Date:	06/12/03

Rev	Date	Change	Revised by	Approved
A	02.12.12	New Issue	KJ/RF	

DART AEROSPACE LTD	Work Order:	29086
Description: Ø2.250 Support	Part Number:	D2891-1
Inspection Dwg: D2891 Rev. A1		Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing D2891 Rev.A1/DSK076 Rev.A and record below:

				Recorded Actual Dimensions					
Dim	**Min**	**Max**	**Go/No Go Gauge**	A13	A14	A15	A16	**By**	**Date**
Lathe Section									
A	2.274	2.279		2.279	2.279	2.279	2.279	MB	06/11/18
B	3.702	3.722		3.712	3.712	3.712	3.712		
C	2.564	2.584		2.575	2.575	2.575	2.575		
D	0.718	0.738		.725	.725	.725	.725		
E	0.090	0.110		.100	.100	.100	.100		
F	2.464	2.484		2.475	2.475	2.475	2.475		
G	2.029	2.049		2.035	2.035	2.035	2.035		
H	2.964	2.984		2.975	2.975	2.975	2.975		
I	0.913	0.933		.923	.923	.923	.923		
J	0.022	0.042		.032	.032	.032	.032		
K	0.090	0.110		.097	.097	.097	.097		
L									
HAAS Section									
AA	0.188	0.193	DT8706	0.189	.189	0.189	.189		
AB	0.240	0.260		0.250	.250	0.250	.248		
AC	0.115	0.150		0.116	.125	0.123	.125		
AD	0.040	0.060		0.056	.056	0.058	.057		
AE	0.010	0.020		0.020	.015	6.015	.015		
AF	0.240	0.260		0.250	.250	0.250	.250		
AG	0.290	0.310		0.300	.301	0.300	.297		
AH	0.115	0.150		0.135	.148	0.135	.139		
AI	0.454	0.474		0.464	.466	0.467	.460		
AJ	2.779	2.789		2.784	2.784	2.779	2.784		
AK	0.240	0.260		0.250	.250	0.250	.250		
AL	1.002	1.042		1.042	1.042	1.042	1.042		
AM	0.053	0.073		0.063	.063	0.063	.063		
AN	0.257	0.262	DT8683	0.258	.257	0.258	.257		
AO	1.663	1.683		1.675	1.678	1.673	1.679		
AP	0.053	0.073		0.063	.063	0.063	.063		
AQ	0.022	0.042		0.032	.032	0.032	.032		
AR									
AS									
Accept/Reject									

Measured by:	BG / MB / J.G
Date:	06/11/18 / 06/11/20

Audited by	J.F.
Date:	06/12/03

Rev	Date	Change	Revised by	Approved
A	02.12.12	New Issue	KJ/RF	

DART AEROSPACE LTD	Work Order:	29086
Description: Ø2.250 Support	Part Number:	D2891-1
Inspection Dwg: D2891 Rev. A1		Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing D2891 Rev.A1/DSK076 Rev.A and record below:

				Recorded Actual Dimensions					
Dim	**Min**	**Max**	**Go/No Go Gauge**	X17	X18	X19	X20	**By**	**Date**
Lathe Section									
A	2.274	2.279		2.279	2.279	2.279	2.279	BG	06.11.09
B	3.702	3.722		3.712	3.712	3.712	3.712		
C	2.564	2.584		2.575	2.575	2.575	2.575		
D	0.718	0.738		.725	.725	.725	.725		
E	0.090	0.110		.100	.100	.100	.100		
F	2.464	2.484		2.475	2.475	2.475	2.475		
G	2.029	2.049		2.035	2.035	2.035	2.035		
H	2.964	2.984		2.975	2.975	2.975	2.975		
I	0.913	0.933		.933	.933	.923	.923		
J	0.022	0.042		.032	.032	.032	.032		
K	0.090	0.110		.097	.097	.097	.097		
L									
HAAS Section									
AA	0.188	0.193	~~DT8706~~	.189	185	0.189	0.189		
AB	0.240	0.260		.248	.245	0.247	0.254		
AC	0.115	0.150		.124	.125	0.123	0.123		
AD	0.040	0.060		.056	.057	0.056	0.051		
AE	0.010	0.020		.015	.015	0.015	0.015		
AF	0.240	0.260		.251	.250	0.250	0250		
AG	0.290	0.310		.297	.296	0.291	0.286		
AH	0.115	0.150		.139	.138	0.140	0.138		
AI	0.454	0.474		.465	.463	0.455	0.463		
AJ	2.779	2.789		2.784	2.784	2.784	2.784		
AK	0.240	0.260		.250	.250	0.250	0.250		
AL	1.002	1.042		1.042	1.041	1.042	1.042		
AM	0.053	0.073		.063	.063	0.063	0.063		
AN	0.257	0.262	~~DT8683~~	.257	.257	0.258	0.258		
AO	1.663	1.683		1.679	1.678	1.679	1.677		
AP	0.053	0.073		.063	.063	0.063	0.063		
AQ	0.022	0.042		.053	.032	0.032	0.032		
AR									
AS									
Accept/Reject									

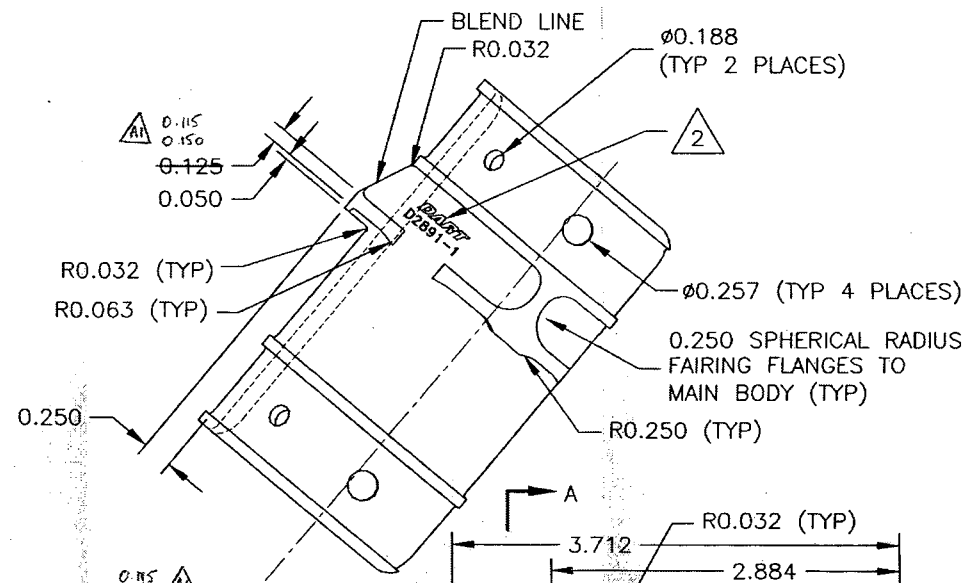
Measured by:	BG / SA / EP
Date:	06.11.09 / 06.11.30 / 06/12/01

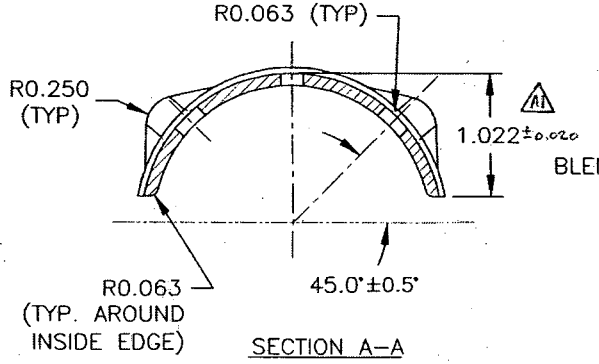
Audited by	J.F.
Date:	06/12/03

Rev	Date	Change	Revised by	Approved
A	02.12.12	New Issue	KJ/RF	

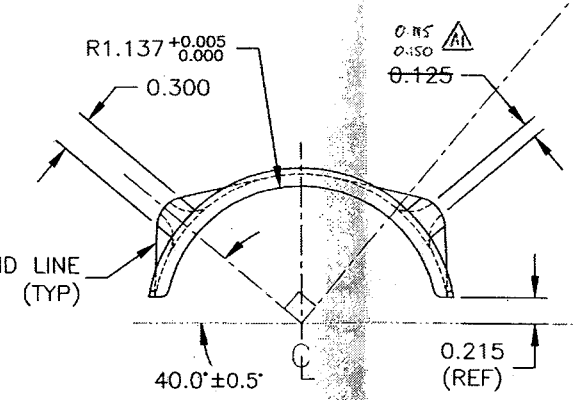
D2891-1

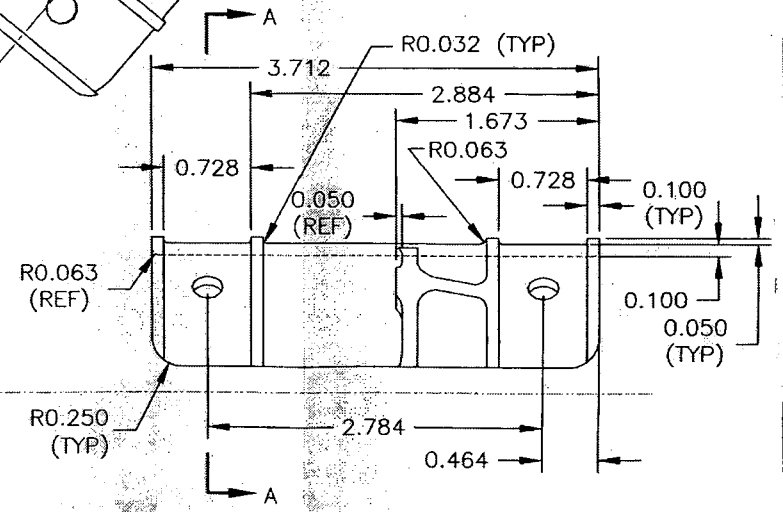
1) MATERIAL: 17-4 PH STAINLESS STEEL
   HEAT TREAT TO H900 CONDITION
   (900°F FOR 1 HR, AIR COOL)
   MIN UTS = 170 KSI (38 HRc)
2) IDENTIFY WITH DART LOGO (PER DART SUPPLIED GRAPHIC) AND PART NUMBER IN THIS AREA WITH 0.125 HIGH LETTERING 0.010-0.020 DEEP.
3) BREAK ALL UNMARKED SHARP EDGES 0.010 TO 0.020
4) PART IS SYMMETRIC ABOUT CENTERLINE
5) TOLERANCES ARE PER DART QSI 018 (REF. X.XXX = ±0.010) UNLESS OTHERWISE NOTED
6) ALL DIMENSIONS ARE IN INCHES
7) FINISH: POWDER COAT WHITE (REF. 4.3.5.2) PER DART QSI 005 4.3





SECTION A-A





SHOP COPY
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SUBJECT TO AMENDMENT WITHOUT NOTICE
WORK ORDER NO. 2290 86

DATA COPY ISSUED

A1	CP 02.01.23		UPDATE DIMS AS MANUFACTURED
A	00.11.17		NEW ISSUE

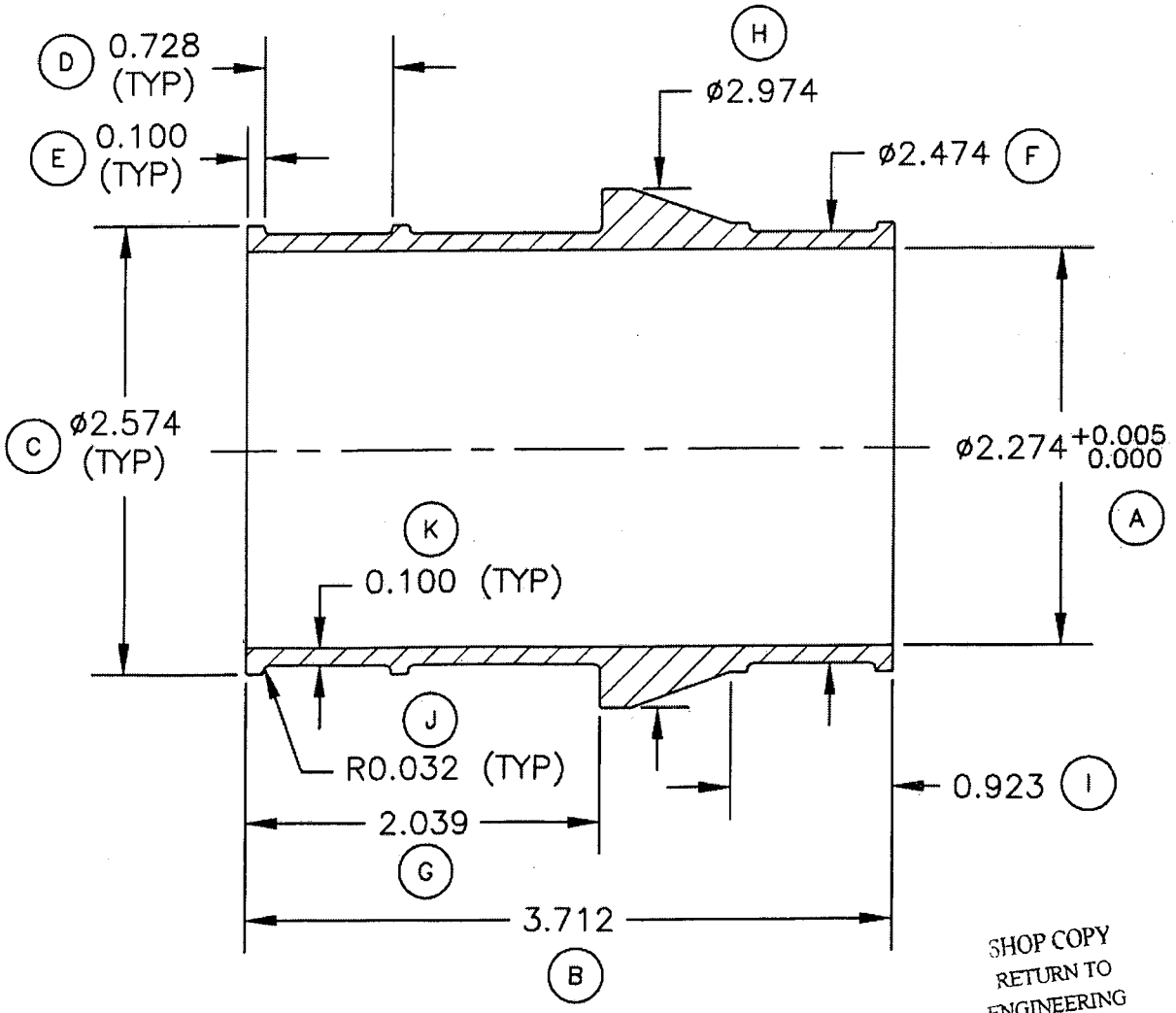
DESIGN	CP	DRAWN BY	CP
CHECKED		APPROVED	
DATE	00.11.17		

DART AEROSPACE LTD.
HAWKESBURY, ONTARIO, CANADA

DRAWING NO. D2891 REV. A
SHEET 1 OF 1
TITLE: Ø2.250 SUPPORT
SCALE: 1:1

DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. DSK 076	REV. A SHEET 1 OF 1
DATE 03.05.20		TITLE TURNING DETAIL FOR D2891-1	SCALE 1:1
A	03.05.20	NEW ISSUE	

RELEASED
03.07.01



D2891-1 TURNING DETAIL

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SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 29086

Specialty Metals
A Division of Crucible Materials Corporation
SYRACUSE
NEW YORK 13201

CERTIFICATE OF TEST

A M CASTLE. INC 3400 N WOLF RD FRANKLIN PARK, IL 60131	SHIP TO	A M CASTLE. INC 6501 BINGLE STREET HOUSTON. TX 77092	OUR ORDER NO. P5-16995-3-0 03 DATE 04/30/04

CUSTOMER ORDER # & DATE	CUSTOMER REQ. #	DISTRICT	SHIPPED FROM
21-22445		B PARSONS	SYRACUSE

DESCRIPTION OF MATERIAL — SIZE

CRU 17CR 4NI RTA IAC 42470 — 3.250 RD
3174-10 REV 4 ASME-SA564-98ED T630 ASTM-A564-02 T630
AMS-5643Q (EX SURFACE) AISI 630 UNS #S17400

CHEMICAL ANALYSIS

HEAT NO.	C	MN	P	S	SI	NI	CR	MO	CU	CB	TA
A15389	.047	.63	.025	.021	.55	4.16	15.20	.094	3.23	.29	.010

CASTLE METALS HOU
DATE RECD 5-13-04
RECD FROM Crucible
IAC 42470 RD 33843
APPROVED BY JS

MECHANICAL PROPERTIES

QUANTITY	HEAT NO.		TENSILE PSI	YLD.2%PSI	%ELONG2IN	RED/AREA%	HARDNESS
2021 #	A15389						BHN 348
		CAPABILITY PHYSICALS AFTER 900 DEG. F. - 1 HR. AIRCOOL:	195,980	172,890	13.6	50.0	BHN 388

MACRO TEST OK
FERRITE 5 %
MAGNAFLUX F/S = 0/0
REDUCTION RATIO: 27.5:1
ELECTRIC FURNACE AOD MELTED
MATERIAL SOLUTION TREATED AT 1900 DEG. F. HELD 45 MINUTES AT TEMPERATURE -
AIRCOOLED.
CRUCIBLE MATERIALS CORP. VENDOR #18610.
MATERIAL INGOT CAST.
NAFTA - YES

MATERIAL FREE FROM MERCURY CONTAMINATION AT TIME OF SHIPMENT
NO WELD REPAIR PERFORMED
MATERIAL MELTED IN U.S.A.

THANK YOU FOR SELECTING A QUALITY PRODUCT
MANUFACTURED BY THE EMPLOYEES OF CRUCIBLE SPECIALTY METALS JW

SWORN TO AND SUBSCRIBED BEFORE ME THIS
_____ DAY OF _____, 20

_____
NOTARY PUBLIC

THE ABOVE MATERIAL WAS MANUFACTURED AND TESTED IN ACCORDA WITH ABOVE SPECIFICATIONS AND IS IN CONFORMANCE WITH TH SPECIFICATION REQUIREMENTS.
CRUCIBLE MATERIALS CORPORATION
ACTING BY AND THROUGH ITS SPECIALTY METALS DIVISION

CERTIFIED BY: _____
QUALITY ASSURANCE REPRESENTATIVE

JACKIE L WHITE - SPECIFICATION EXAMINER

VALBRUNA
SLATER STAINLESS, INC.
2400 Taylor Street West, P.O. Box 630
Fort Wayne, Indiana USA 46801
Phone: 260-434-2892 Fax: 260-434-2905

Product Certification Report

Report Number: 4213510

Certified on Aug 29, 2006 Page 1 of 2

Order I.D.	Order Date	Commodity Code			
0600410 001	2/14/06	14996			
Dim 1	**Dim 2**	**Dim 3**	**Heat I.D.**	**Customer I.D.**	**Customer Purchase Order**
4.0000	.0000	.0000	042620	001123	01-12439
Product Shape	**Product Surface**				**Customer Grade**
Rounds	Centerless Ground/Cold Finish				17-4
Length (inches)		**Bill of Lading #**	**Weight**		
132.000 Min. 156.000 Max.		403806			

Ship To
CASTLE METALS
3400 NORTH WOLF ROAD
FRANKLIN PARK, IL 60131

Sold To
VALBRUNA STAINLESS, INC.
2400 TAYLOR STREET WEST
FORT WAYNE, IN 46802

Lifts: 0025 0030

AISI 630 CONDITION A 3174-03 Rev 18 DTD 07/15/05
UNS S17400 ASTMA 564-04 ASMESA 564 01 ED 2002 ADD
AMS 2303E AMS 5643Q

CHEMICAL ANALYSIS

C	Mn	P	S	Si	Cr	Ni	Mo	Cu	N	Cb	Ta	Cb+Ta
.040	.55	.022	.026	.38	15.80	4.33	.21	3.33	.04	.28	.010	.29

HB
361

TENSILE PROPERTIES
CAPABILITY

HB	TS (PSI)	.2%YS (PSI)	%EL(2")	%RA	AGE(F)
430	205000	193300	12.9	54.6	900

MAGNETIC PARTICLE TEST

	FREQ	SEV
AVG	.20	.13

PRODUCTION HEAT TREATMENT

SOL-ANN(F)	SOL-ANN(HR)	QUENCH
1900	7.75	Air

MACRO ASTM E340/E381

MACRO
OK
OK
OK

CASTLE METALS FP
DATE RCVD 8-29 IAC 14996
APPROVED BY gf

PERCENT FERRITE

	% FERRITE
AVG	.5

Reduction ratio 5 To 1 Min.
Electric Furnace melted; AOD refined.
Ultrasonic test OK.
We certify that the contents of this report are correct and that all operations performed by our company or subcontractors are in compliance with material specifications and the ASME Boiler & Pressure Code. Section III, Section III, Subsection NCA-3800, 2001 edition. 02 Addenda
Chemical testing performed to one or several of the following ASTM methods: E415, E572, E1019, E1085, E108(

I hereby certify that the reported figures are correct as contained in the records of the corporation.

Manager Laboratory Services Dennis Hackett

Dennis Hackett

VALBRUNA
SLATER STAINLESS, INC.
2400 Taylor Street West, P.O. Box 630
Fort Wayne, Indiana USA 46801
Phone: 260-434-2992 Fax: 260-434-2905

Product Certification Report

Report Number: 4213510

Certified on Aug 29, 2006

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FORT WAYNE, IN 46802

No mercury or low melting alloy contamination. No weld repair.
Material melted and manufactured in the United States.
Material conforms to listed specifications.
Quality system is compliant with ISO 9001:2000. Produced in accordance with EN 10204 3.1B.

Manager Laboratory Services Dennis Hackett

Dennis Hackett

Chris Provencal

From: David Shepherd [dshepherd@dartaero.com]
Sent: December 1, 2006 3:39 PM
To: 'Chris Provencal'
Subject: RE: Ncr D2891

These parts are acceptable deviations.

David

-----Original Message-----
From: Chris Provencal [mailto:cprovencal@dartaero.com]
Sent: Friday, December 01, 2006 8:43 AM
To: David Shepherd (David Shepherd)
Cc: 'S Shahbazian'
Subject: Ncr D2891

David,

Several D2891-1 supports were machined with a few dimensions smaller than the dwg. There was a problem with the tool, which they were troubleshooting. Basically, the width of some of the ridges are too small (min. 0.100") and some of 'contact pads' are small as well (min 0.270").
The attached dwg shows the affected dims.

Are these parts acceptable.